**Assignment 5 Template**

**LAST NAME: Lawson**

**FIRST NAME: John**

**USERID: jd2lawso**

**UWaterloo ID: 20466075**

**Problem 2: Fill in the information below based on your data which were generated using your ID number as the seed for the random number generator.**

**Model = 2**

**Insert the original table of observed and expected frequencies here.**

**[,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] [,11]**

**y 0.000 1.00 2.0 3.00 4.00 5.00 6.00 7.000 8.000 9.000 10.0000**

**observed 17.000 13.00 26.0 26.00 19.00 15.00 11.00 8.000 8.000 1.000 1.0000**

**expected 3.378 12.81 24.3 30.73 29.14 22.11 13.98 7.575 3.592 1.514 0.5743**

**[,12] [,13] [,14] [,15] [,16] [,17] [,18]**

**y 11.000 12.0000 13.00000 14.000000 15.000000 1.600e+01 1.700e+01**

**observed 1.000 1.0000 1.00000 0.000000 0.000000 1.000e+00 0.000e+00**

**expected 0.198 0.0626 0.01827 0.004949 0.001252 2.967e-04 6.621e-05**

**[,19]**

**y 1.800e+01**

**observed 1.000e+00**

**expected 1.738e-05**

**Insert the table of observed and expected frequencies after collapsing here.**

**[,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8]**

**y 1.00 2.0 3.00 4.00 5.00 6.00 7.000 8.000**

**observed 30.00 26.0 26.00 19.00 15.00 11.00 8.000 15.000**

**expected 16.19 24.3 30.73 29.14 22.11 13.98 7.575 5.965**

**The hypothesis of interest is the data arise from a Poisson model.**

**The observed value of the likelihood ratio statistic for testing this hypothesis**

**= 27.18211**

**The degrees of freedom for the Chi-squared distribution = 6**

**The p-value = 0.0001338625**

**since p < 0.05, this is a likely conclusion**

**The observed value of the Pearson Goodness of Fit statistic for testing this hypothesis = 32.77925**

**The degrees of freedom for the Chi-squared distribution = 6**

**The p-value = 1.156272e-05**

**Since p < 0.05, this is a likely conclusion**